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S E C R E T [redacted] CITE NPIC 4003 25X1

ATTENTION: [redacted] 25X1
SUBJECT: EVALUATION OF GIANT SCALE MISSION S018

1. QUALITY SUMMARY: MISSION S018, FLOWN 17 MAY 1968, PROVIDES AVERAGE IMAGE QUALITY COMPARED TO PREVIOUS GIANT SCALE MISSIONS. THE RIGHT OPERATIONAL OBJECTIVE CAMERA HAS AN OUT OF FOCUS APPEARANCE AND PROVIDES IMAGE QUALITY INFERIOR TO THAT FROM PREVIOUS MISSIONS USING THIS CAMERA. THE INTERPRETATIONS SUITABILITY IN CLOUD FREE AREAS OF THE MISSION IS CONSIDERED FAIR TO GOOD. GOUND RESOLUTION FIGURES ARE EMPIRICAL ESTIMATES BASED ON EVALUATIONS OF SIMILAR SENSORS AND IMPLY A BAR AND A SPACE. THUS, A FIGURE OF [redacted] OBJECT COULD BE DETECTED. THE FOLLOWING RESOLUTION ESTIMATES ARE MADE ON THE ORIGINAL NEGATIVE FROM CLOUD FREE IMAGERY AT OR NEAR NADIR.

A. LEFT TECHNICAL OBJECTIVE CAMERA [redacted]
B. RIGHT TECHNICAL OBJECTIVE CAMERA

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C. LEFT OPERATIONAL OBJECTIVE CAMERA [redacted]
D. RIGHT OPERATIONAL OBJECTIVE CAMERA

2. CLOUDS OBSCURE OR DEGRADE 25 PERCENT OF THE IMAGERY.

3. THE MATERIAL WAS PROCESSED AT [redacted] THE MISSION EMPLOYED THE USUAL SENSORS. THE ONLY MATERIALS EVALUATED ARE THE ORIGINAL NEGATIVES FROM THE OPERATIONAL AND TECHNICAL OBJECTIVE CAMERAS. THE TERRAIN OBJECTIVE CAMERA MATERIAL WAS USED TO DETERMINE THE AREAS OF 80 PERCENT CLOUD FREE PHOTOGRAPHY AND TO ASSIST IN CORRELATION OF THE FILM TO THE MISSION RECORDER SYSTEM DATA.

4. ANALYSIS OF THE TECHNICAL OBJECTIVE MATERIAL

A. COMMENTS APPLICABLE TO BOTH CAMERAS:

(1) APPROXIMATELY 40 PERCENT OF THE PHOTOGRAPHY WAS ACQUIRED ABOVE 30 DEGREES OBLIQUITY.

(2) ALL PHOTOGRAPHS ACQUIRED ABOVE 45 DEGREES OBLIQUITY CONTAIN SEVERE IMAGE DEGRADATION IN ONE CORNER OF THE FORMAT (TWO INCH SQUARE AREA), CAUSED BY VIGNETTING.

(3) FOG PATTERNS RESULTING FROM STATIC CAN BE DETECTED ALONG BOTH EDGES OF THE NEGATIVES.

(4) THERE ARE MINUS DENSITY STREAKS ASSOCIATED WITH THE

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PLATEN CONFIGURATION THROUGHOUT THE MISSION.

(5) BANDING, APPARENTLY INDUCED BY VIBRATION, IS PRESENT THROUGHOUT THE MISSION.

(6) THE DENSITY AND CONTRAST ARE SATISFACTORY.

B. LEFT CAMERA (AL), S/N 64-21:

(1) RANDOM MINUS DENSITY STREAKS PARALLEL TO THE MAJOR AXIS ARE PRESENT.

(2) AN ULTROSONIC SPLICE IS PRESENT IN FRAME 504.

(3) CAMERA OFF/ONS: BETWEEN FRAMES 117/118, 151/152, AND 953/954.

(4) LAST TITLED FRAME: 1139.

C. RIGHT CAMERA (AR), S/N 64-22:
(1) A MINUS DENSITY STREAK, 1.1 INCHES FROM THE NON-TITLED EDGE, IS PRESENT IN FRAMES 576 TO 668 AND FRAMES 940 TO 978.
(2) TWO PLUS DENSITY SPIRAL BANDS (1/8 INCH WIDE), PARALLEL TO THE MAJOR AXIS AND LOCATED 2.0 INCHES FROM EACH EDGE OF THE FILM, ARE PRESENT THROUGHOUT THE MISSION.
(3) PLUS DENSITY SPOTS, SOME AS LARGE AS A 0.70 INCH CIRCLE, ARE LOCATED 1.5 INCHES FROM BOTH EDGES OF THE FILM. THEY ARE LOCATED BETWEEN THE FORMATS AS WELL AS IN THE FORMATS AND

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APPEAR TO BE PROCESSOR INDUCED.
(4) CAMERA OFF/ONS: BETWEEN FRAMES 88/89, 151/152, AND 873/874.
(5) LAST TITLED FRAME: 1045.
5. ANALYSIS OF THE OPERATIONAL OBJECTIVE CAMERA MATERIAL:
A. COMMENTS APPLICABLE TO BOTH CAMERAS.
(1) THE DENSITY AND THE CONTRAST OF THE NEGATIVES APPEAR SATISFACTORY.
(2) THE TITLED FRAME NUMBERS CORRESPOND DIRECTLY TO THE EVENTS COUNTER.
(3) CAMERA OFF/ONS OCCURRED BETWEEN FRAMES 497/498. THE LAST FRAME OF EACH CAMERA OPERATION DISPLAYS FOGGED PATTERNS NORMALLY ASSOCIATED WITH A CAMERA OFF.
(4) THE TIME TRACK IMAGED FOR EACH FRAME BEGINS APPROXIMATELY 0.65 INCH AFTER THE START OF SCAN AND EXTENDS APPROXIMATELY 0.80 INCH BEYOND THE END OF SCAN.
(5) MYLAR TAPE SPLICE IS MADE BETWEEN FRAMES 522/523.
B. LEFT OPERATIONAL OBJECTIVE CAMERA (CL), S/N 4029:
(1) THE TIME TRACK IS NOT IMAGED THROUGH THE FIRST 2.8 INCHES OF FRAME 002, FRAMES 498 TO 500, AND THE FIRST 4.6 INCHES OF FRAME 501.
(2) THE FIRST 0.40 INCH OF SCAN FOR EACH FRAME IS DEGRADED AND APPEARS OUT OF FOCUS. THE FIRST 0.20 INCH OF THIS IS THE MOST SEVERE.
(3) EACH DATA CHAMBER ENCROACHES SLIGHTLY INTO BOTH ADJACENT FORMATS.
(4) THE FIRST TWO STRETCH MARKS, FROM START OF SCAN, ALONG BOTH BORDERS ARE NOT PRESENT THROUGHOUT.
(5) THE LAST TITLED FRAME OF THE LEFT OOC IS 605.
C. RIGHT OPERATIONAL OBJECTIVE CAMERA (CR), S/N 4030:
(1) THE TIME TRACK IS NOT IMAGED FOR FRAMES 001 TO 020, THE FIRST 4.30 INCHES OF FRAME 021, AND FRAMES 498 TO 501.
(2) ALL FRAMES ACQUIRED BY THIS CAMERA ARE DEGRADED AND

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APPEAR OUT OF FOCUS.
(3) THE DATA CHAMBER IS SLIGHTLY SKEWED THROUGHOUT. THIS OBLITERATES THE MINUTE AND SECOND MARKS ALONG THE FAR RIGHT SIDE OF THE CLOCK. APPROXIMATELY 75 PERCENT OF THE DATA CHAMBER FOR FRAME 522 WAS LOST DURING THE SPLICING OPERATION DONE BETWEEN FRAMES 522/523.
(4) THE SECOND STRETCH MARK FROM START OF SCAN AND ALONG THE NON-TITLED EDGE IS NOT IMAGED DURING THE MISSION.
(5) A MINUS DENSITY STREAK IS PRESENT 0.92 INCH FROM AND

PARALLEL TO THE NON-TITLED EDGE THROUGHOUT.
(6) THE LAST TITLED FRAME OF THE RIGHT OOC IS 606.
6. MISSION RECORDER SYSTEM (MRS) CORRELATION: BEGINNING WITH THIS MISSION, A NEW METHOD OF CORRELATION AND REPORTING IS BEING INITIATED. FOR EACH CAMERA, THE GEOGRAPHIC LATITUDE AND LONGITUDE OF PLOTTED PHOTOGRAPHY ARE BEING COMPARED TO THE MRS DATA. BY APPLYING THIS METHOD TO ONE TITLED FRAME, THAT TITLED FRAME COULD BE MATCHED TO ONE LINE OF MRS DATA WITH A CERTAIN ACCURACY (VARYING FOR EACH CAMERA DEPENDING ON LENGTH OF MISSION). THE ACCURACY OF THE CORRELATION IS EXPRESSED IN THE FOLLOWING TABLE. COLUMN 1 INDICATES

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THE TITLED TERRAIN CAMERA FRAME NUMBER WHERE THE CORRELATION WAS VERIFIED. COLUMNS 3, 5, 7, AND 9 INDICATE THE CORRESPONDING TITLED FRAME NUMBER FOR THE RIGHT OOC, LEFT OOC, RIGHT TEOC, AND LEFT TEOC, RESPECTIVELY. COLUMNS 2, 4, 6, 8, AND 10 INDICATE THE NUMBER OF LINES WITHIN WHICH ONE FRAME OF PHOTOGRAPHY FROM THE RESPECTIVE CAMERA COULD BE CORRELATED IN THE MRS LISTING. FOR EXAMPLE, AT THE BEGINNING OF THE MISSION A FRAME (184) OF THE RIGHT TECHNICAL OBJECTIVE CAMERA WOULD BE CORRELATED WITHIN A 9 LINE REGION (PLUS OR MINUS 5) OF MRS DATA. A SMALLER NUMBER IN COLUMNS 2, 4, 6, 8, OR 10 INDICATES A MORE ACCURATE CORRELATION WITH 1 INDICATING AN EXACT CORRELATION.

NUMBER OF MRS LINES PER FRAME

TERRAIN		R-OOC		L-OOC		R-TEOC		L-TEOC	
FRAME	LINES	FRAME	LINES	FRAME	LINES	FRAME	LINES	FRAME	LINES
186	1	257	4	257	5	184	9	83	8
209	1	451	2	451	2	329	4	214	5
324	2	506	11	506	11	NP	NP	958	20

NP - NO PLOTTABLE IMAGERY

THIS CORRELATION METHOD APPLIES TO THE SENSOR STATUS UTILIZATION HISTORY (SSUH) WHICH IS PRESENTLY BEING SUPPLIED TO NPIC. WHEN THE "MISSION EPHEMERIS" IS AVAILABLE ON FUTURE MISSIONS, A NEW EVALUATION OF THE DATA WILL BE CONDUCTED.

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END OF MESSAGE